STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: BURROW *Agreement #: 76259*

2. Name of applicant: Washington State Department of Natural Resources

3. Address and phone number of applicant and contact person:
   Olympic Region
   411 Tillicum Lane
   Forks, WA 98331
   Contact Person: Drew Rosanbalm
   Telephone: (360) 374-6131

4. Date checklist prepared: 07/14/2004

5. Agency requesting checklist: Washington State Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. Auction Date: 12/14/2004
   b. Planned contract end date (but may be extended): 12/31/06
   c. Phasing:

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. Site preparation: Landings and slash piles will be burned upon completion of harvest

   b. Regeneration Method: Hand planting of Douglas-fir, western red cedar will be completed within the first planting season after harvest, with a total of 300 trees per acre

   c. *Vegetation Management:* Hand slash alder and brush if needed at approximate age 5-7.

   d. Thinning: Assess need for pre-commercial thin at age 15 and commercial thin at age 30.

   Roads: The roads developed by this timber sale will be used to access future timber sales.

   Rock Pits and/or Sale: No

   Other: No

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐*303 (d) – listed water body in WAU:* ☐*temp* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:*
☐*Wildlife report:*
☒*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☐*Rock pit plan:*
☐*Other:* Final Forest Resource Plan (July 1992); Final Habitat Conservation Plan (September 1997); State Soil Survey; South Coast Marbled Murrelet Habitat Model; Forestry Handbook (August 1999)
All documents are available for viewing at the Olympic Region office during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. No

10. List any government approvals or permits that will be needed for your proposal, if known.

☐*HPA* ☐*Burning permit* ☐*Shoreline permit* ☒*Incidental take permit* ☒*FPA* ☒*Other:* Board of Natural Resources

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*
A proposed area of approximately 100 acres of second-growth conifer timber, located in Section 16, Township 21N, Range 09W, W.M., was considered for regeneration harvest. Field reconnaissance revealed a Type 4/5 stream system in the center of the unit and a Type 5 stream on the western boundary. The Type 4 stream is buffered out of the sale in accordance with the Department of Natural Resources (DNR) Habitat Conservation Plan (HCP) using a 100-foot wide riparian buffer. The Type 5 portion of this stream was also tagged out with a 25-foot buffer on one side and further buffered with 250 retention trees. The Type 5 on the western boundary is protected with retention trees along its banks and headwall area. The resulting net harvestable area is 95.7 acres, this includes a .46-acre right of way across the Type 5 stream. The streams associated with this sale are tributary to the West Fork Humptulips River. There is an estimated 5.921 MMBF of timber to be harvested, which consists of second-growth Douglas fir and western hemlock. There are 762 leave trees arranged in clumps and scattered throughout the sale, this includes the 250 retention trees tagged out of the sale along the Type 5 stream. There will be 7550 feet of new construction and 1000 feet of reconstruction. The new construction will cross an unstable area for approximately two stations. Mitigation measures have been taken to ensure impacts will be minimal. Water will be ditched to avoid this site and all excavation will be end haul. None of the roads associated with this sale will be abandoned, as they will be used for future harvest. This sale will install a gate at the junction of the Donkey Creek Road. Other mitigation measures for this sale include:
RMZ along the Type 4 water-
The road was pushed higher up the hill to avoid the RMZ and avoid any road construction in the unstable zone.
Culverts have been placed to minimize water impacts to any unstable areas.
Type 5 headwall area-
Green Tree Retention (GTR) was located in portions of the headwall area to minimize yarding impacts to this zone.
A cable logging system will be used to minimize ground disturbance in the area.
Landings will be located on stable ground that will not impact the headwall area.

Type 5 stream crossing-road stations 40+00 to 44+00-
The culvert crossing was located in a stable location so as to minimize impacts of the road crossing the stream.
Full bench construction will be used to minimize impacts to the riparian zone.

All other unstable areas were tagged out of the sale.

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*
This entire section was clear-cut around the 1920's. It regenerated naturally to a mixed western hemlock and Douglas-fir stand with scattered Sitka spruce and other minor species. There are 201 trees per acre in the sale area with an average diameter at breast height of 17.3 inches. The timber type is simple in structure, having been clear-cut logged in the past, with few snags, little in the way of large down wood, and few large residual trees. The current proposal is for a regeneration harvest of a portion of this section. There is a Type 4/5 stream running through the center of the stand. The Type 4 is protected with a buffer 100 feet in width. The Type 5 portion is protected by tagging it out of the sale with a 25-foot wide buffer on one side and retention trees located on the other side. There is also a Type 5 stream flowing out of the western boundary. This is protected by placing retention trees along it. The South Coast marbled murrelet model identified the timber along the western edge, north of the Type 4 stream as Marbled Murrelet habitat. The habitat was excluded from the sale area. There was also a Goshawk nest located within the sale. The nest has not been active since 1999 and is in poor condition. Scott Horton, Olympic Region Biologist visited the site and walked the timber around the nest site. No other nest sites were located. The objective is to manage the area as forestland to produce revenue, while meeting HCP objectives by providing wildlife habitat and maintain the hydrology, soil productivity and water quality.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		7550	2.6	0
Reconstruction		1000		0
Abandonment		0	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	15			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

T21N R9W S16

b. Distance and direction from nearest town (include road names):
It is 26 miles south to Hoquiam via Hwy. 101 and the Donkey Creek Road.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU Acres	Proposal Acres
HUMPTULIPS, WF	46897	94

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

This proposal is located within the West Fork Humptulips WAU. This WAU contains 46,897acres of which the Department of Natural Resources (DNR) manages 1414 acres, or approximately 3%. The United States Forest Service manages 72% of the WAU and 1% is managed by Grays Harbor County. The remainder, approximately 24% of the WAU, is presumably in private ownership. Forest stands within the WAU appear to be almost exclusively second and third growth stands on private, county and DNR land, with older forest conditions on the Forest Service land. There are numerous current and expired Forest Practice permits on private land in the WAU, some on County lands, and none shown on Forest Service lands. The numbers of current and past Forest Practices shown on the attached WAU map, along with observations within the WAU, indicate that the privately owned timber stands are fairly heavily managed. Management includes regeneration harvest, thinning, and partial cuts. Future plans for harvest activity on private and County lands are unknown, and there likely is little or no harvest planned on Forest Service lands in the WAU. On DNR lands, the Mule Packer timber sale, to the west of this proposal, was harvested under HCP guidelines in 2000. This sale has since been replanted. The South Coast Marbled Murrelet model identified the timber along the western boundary, north of the Type 4 stream as Marbled Murrelet habitat. This habitat was excluded from the sale area. In the future DNR will remove approximately 12 more acres of timber along the northern boundary of this proposal. A Goshawk nest was identified within this sale, the nest has not been active since 1999. It is currently in poor condition. The timber around the nest site, as well as the nest tree will be left.

The DNR has an HCP agreement with the federal government concerning threatened and endangered species and their habitats, which requires the department to manage landscapes with the intent to preserve and enhance habitat used by fish and older forest dependent species. This agreement substantially helps the department to mitigate for harmful cumulative effects related to its management activities. The HCP is designed to protect and promote fish and wildlife species and their habitats over a broad regional area. The applicable HCP strategies incorporated into this proposal are as follows:

- Retaining Riparian Management Zones (RMZ 's) on Type 4 streams,
- Retaining a minimum of eight leave trees per acre scattered and clumped throughout the unit,
- Protection of Marbled Murrelet habitat,
- Protection of a Goshawk nest site,
- Analyzing, designing, constructing, and maintaining a road system to minimize potential adverse effects on the environment.

Several mitigation measures were taken to minimize impacts to unstable slopes-

Road building through the unstable area in the southwest corner of the sale- road stations 8+56 to 10+86.
Full bench, no side cast construction.
Water is piped through a culvert above the unstable area and carried through the area in a ditch.

RMZ along the Type 4 water-
The road was pushed higher up the hill to avoid the RMZ and avoid any road construction in the unstable zone.
Culverts have been placed to minimize water impacts to any unstable areas.
Type 5 headwall area-
GTR was located in portions of the headwall area to minimize yarding impacts to this zone.
A cable logging system will be used to minimize ground disturbance in the area.
Landings will be located on stable ground that will not impact the headwall area.

Type 5 stream crossing-road stations 40+00 to 44+00.
The culvert crossing was located in a stable location so as to minimize impacts of the road crossing the stream.
Full bench construction will be used to minimize impacts to the riparian zone.

All other unstable areas were tagged out of the sale.

Several measures have been taken to ensure that this proposal will not contribute to adverse environmental impacts through cumulative effects. Approximately four acres were deleted from the original proposal to protect the Type 4 and 5 streams with riparian management zones. There will be no harvest activities within any of the buffers. Retaining RMZ's protects water quality, stream bank integrity, and stream temperature. They also provide large woody debris (LWD) recruitment and habitat for riparian species. Furthermore, the RMZ's will develop old-forest characteristics that, in combination with other strategies, will help support old-forest dependant wildlife populations in the future.

Retaining eight leave trees per acre in the regeneration harvest area provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination these features will provide elements of old forest habitat characteristics within the next rotation. By managing to develop climax forest characteristics, habitats will be provided for wildlife species dependent on old forest habitat.

New roads will be constructed in compliance with HCP and Forest Practice requirements and will divert storm water onto stable forest floor to prevent delivery of sediment to live streams. To avoid erosion and impacts to water quality, soils exposed during road construction will be covered with hay. To protect soil productivity and reduce erosion, ground based operations will be suspended during periods of wet weather or wet soil conditions when rutting of skid or shovel roads begins. These measures will minimize harvest and road impacts on the environment. Following harvest, the site will be replanted with Douglas fir and western red cedar and managed as forestland.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).
The West Fork Humptulips WAU is generally flat to rolling ground in the southern half, while the northern half is steep and mountainous. Flat plains are located along the river for much of its length. With elevations ranging from 169 to 4411 feet, approximately 7 percent of the WAU lies in the snow dominated zone, with 27 percent lying in the rain on snow zone. 36 percent of the WAU is in the rain dominated zone, with 30 percent in the lowland zone. Precipitation ranges from 110 to 180 inches per year. The major timber type is western hemlock, with scattered Douglas fir, western red cedar, Sitka spruce, and red alder. This proposal is in the western hemlock zone. The majority of the WAU is forested lands managed by various government and private entities, with a few residential and agricultural lands in the southwest part of the WAU.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).
This proposal is located in the lowland zone. The elevation ranges from 400 to 850 feet.

b. What is the steepest slope on the site (approximate percent slope)?
70%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
9833	GRAVELLY LOAM	30-65	50	MEDIUM	HIGH
5370	V.GRAVELLY LOAM	8-30	25	INSIGNIFIC'T	MEDIUM
9832	GRAVELLY LOAM	8-30	9	LOW	MEDIUM
5371	V.GRAVELLY LOAM	30-65	7	MEDIUM	MEDIUM
9834	GRAVELLY LOAM	65-90	3	HIGH	HIGH
5368	V.GRAVELLY LOAM	1-8	2	INSIGNIFIC'T	LOW

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:
There are some surface indications within the sale area of past slumps. These areas are dry and could be caused by past logging practices in the 1920's.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
During high water events the inner gorges along the larger streams sometimes fail due to undercutting of the banks. In the steeper parts of the WAU some headwall areas have failed, typically associated with rain-on-snow events.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:
On some of the older roads shallow side-cast failures have occurred. The associated management activity was side-cast road construction on steep ground. Early logging practices in this area also caused some failures. Logs were typically yarded to a central location on a ridge and then downhill yarded to a reload area. There was little deflection and this caused gouging and slope failures.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*
Some of the sale area is on steep slopes.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.
Past failures in the WAU occurred because of side cast road construction. The road construction in this proposal will have end haul/overhaul construction on slopes in excess of 45%. Drainage structures will be located such that water will be directed to stable, well drained locations. Roads have been located to avoid unstable locations and ridges where possible.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
*Approx. acreage new roads:*2.6 *Approx. acreage new landings:*1.0 *Fill source:* commercial source

Grading will occur for the new road construction and filling will occur over new culvert installations. Ballast rock will be hauled in from a commercial pit. See A.11.c. for grading length and the number of new culverts.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Yes, minimal erosion may occur as the result of road use and logging operations.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*
None

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

To protect soil productivity and reduce erosion, roads will be constructed with properly located ditches, ditch outs and cross drains to divert water onto stable forest floor and/or into stable natural drainages. Soil exposed during road construction will be covered with hay. Ground based operations will be suspended during periods of wet weather or wet soil conditions when rutting of skid or shovel roads begins. Roads are located to eliminate the need for downhill yarding. A shovel bunching area was added to the flat area along the western boundary north of the Type 4 stream. The logs in this area will be bunched together and yarded to the ridge. This eliminated the need to construct approximately 1200 feet of new road. Riparian management zones averaging 100 feet wide on Type 4 streams have been incorporated into the sale design to decrease the possibility of sediment delivery, loss of stream function, and maintain stream bank integrity. Leave trees were clumped along Type 5 streams. There is also a 30 foot no equipment exclusion zone along the Type 5 streams. All timber is to be felled and yarded away from riparian management zones. Harvested areas will be reforested within one growing season of the expiration of the contract.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling,* automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.
Insignificant amounts of engine exhaust from logging equipment and dust from passage of log trucks. Logging slash, if burned, will be burned adhering to the State's smoke management plan.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
Adherence to burn permit provisions and smoke management plan when burning slash piles.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*
There are three streams involved in this proposal, one Type 4 and two Type 5's. The Type 4/5 stream flows through the middle of the unit. The Type 4 is protected with a 100-foot wide riparian zone. This stream turns into a Type 5 near the eastern boundary of the sale. This area is protected on one side by tagging out the unstable zone along its banks. The other side has retention trees along it. Along the western boundary, north of the Type 4 stream is a Type 5. This is protected with retention trees marked along it and in the headwall area.

a) *Downstream water bodies:*
The West Fork Humptulips River is located approximately .5 miles to the west of the sale.

b) *Complete the following riparian & wetland management zone table:*

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Stream	4	1	100
Stream	5	2	N/A

c) *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*
RMZ's for this proposal have been laid out in accordance with the Departments current HCP procedures. A Type 4 stream is located in the center of the sale and is protected with a 100' riparian management zone. There is no harvest planned within the riparian management zone. There will be a new road constructed across the Type 5 stream. It is located in a stable area.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map.)*
Description (include culverts):
Timber harvest within 200' but not within 100' of the Type 4 streams, and within 25 feet of the Type 5 streams with the exception of designated leave trees. There will be no yarding through the Type 5 streams. There is one road crossing on the Type 5 stream in the middle of the sale, the crossing located on stable ground.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*

☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?
Yes. Approximately 25% of the West Fork Humptulips WAU has high soil erosion potential and 9% has a high mass wasting potential. These areas are generally in the northern part of the WAU. The inner gorges of some of the larger streams and the headwalls of some of the steeper draws in the WAU are susceptible. Since the erosion is caused by high water and/or rain-on-snow events, the eroded material would likely enter surface waters. The potential for eroded material to enter surface water based on this proposal is low due to the control measures being included in the proposal (see B.1.h.).

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*
There is evidence of surface erosion and mass wasting throughout the WAU. Elevated streambeds attributed to accelerated aggradations of sediment in the channels are the main indicator of channel changes in the WAU. There is also a general decrease in the amount of LWD in streams that were not buffered during past harvest activities due to a decrease in recruitment and the natural decay process removing existing LWD. Where the stream banks erode or headwalls fail, as described above, the channels may change dimension and/or direction over time.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*
The RMZ, WMZ, and other items listed in B.1.h., B.3.a.1.c above and B.3.d. below will minimize sediment delivery to streams. These mitigation elements should limit affects on water quality in relation to the items of concern revealed in questions 1-8.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)? 2.4 miles
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☐*No* ☒*Yes, describe:*
Of the roads observed in the WAU only a small portion of the roads intercept sub-surface flow and deliver it to streams. In recent years an emphasis has been placed on using more cross-drain culverts both on new road construction and on existing road reconstruction. This has resulted in more ditch water being diverted back to the forest floor.

*11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU <u>or</u> sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU <u>or</u> sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

13) Is there evidence of changes to channels associated with peak flows in the WAU <u>or</u> sub-basin(s)?
☐*No* ☒*Yes, describe observations:*
As described above, some of the larger stream banks can erode during periods of high water and steep headwall areas can fail during rain-on-snow events. The mass wasting described in B.1.d.2. above occurs during peak flow events and can result in accelerated sediment aggradations. Lack of LWD can contribute to stream channelization during peak flow events.

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.
This proposal may slightly change the timing, duration, and amount of water in a peak flow event. Flow rates may increase slightly during low flow periods due to decreased transpiration and interception. However, the unit size, location (not in the Rain-on-Snow Zone), Riparian Management Zones, and green-up policies will minimize this proposals potential contribution to peak flow problems.

15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?
☐*No* ☒*Yes, possible impacts:*
The Humptulips fish hatchery lies approximately 10 miles downstream of this proposal at the confluence of Stevens Creek and the Humptulips River. The hatchery could be negatively impacted by changes in water quality or quantity. As described in B.3.a.9 and B.3.a.14 above, and B.3.a.16, below, any potential negative impact to water quality or quantity will be minimized by the low erosion potential of the soils on the site and the control measures being included in the proposal (see B.1.h.).

16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.
Recent increases in the number and spacing of culverts to divert water to the forest floor. Maintaining large RMZ's on streams that maintain bank stability, hydrologic function, and provide recruitment of LWD. Maintaining unit sizes less than 100 acres and providing 5 years for green-up before harvesting adjacent DNR stands. See B.1.h , B.3.a.1.c and A.13.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.
No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
Does not apply.

3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?
☐*No* ☒*Yes, describe:*
The Humptulips fish hatchery lies approximately 10 miles downstream of this proposal at the confluence of Stevens Creek and the Humptulips River. It is unlikely the hatchery would be negatively impacted by changes in groundwater as a result of this proposal. Riparian and wetland management zones protect water quality, stream bank integrity, stream temperature, hydrology, and sensitive soils.

a) Note protection measures, if any.
All Type 4 streams are protected with buffers. Type 5 streams are protected with yarding restrictions and placement of leave trees, and ditch water will be directed to stable forest floor. See B.3.a.1.c and A.13.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
Storm water runoff will be collected by road ditches and diverted through cross drain culverts onto the forest floor. Culverts will be placed at a location to minimize the amount of water runoff directly entering existing stream channels.

2) Could waste materials enter ground or surface waters? If so, generally describe.
No
a) Note protection measures, if any.
Does not apply

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☐maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☐*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☐*other:*
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")
To the north of the sale area is DNR timber of the same type as the sale. To the east and south is private timber. This timber is also the same type and structure as the sale. To the west is a DNR harvest unit. It was planted to Douglas fir during the winter of 2000/2001.

2) Retention tree plan:
There are approximately 762 retention trees left on this sale. This is 8 trees per acre. 250 of these were left along the Type 5 stream on the east side of the sale. Several were also left along the Type 5 stream on the west edge of the sale. The rest of the trees were both scattered and clumped throughout the sale area.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Douglas fir and western red cedar will be planted, and other native conifer species may regenerate naturally on the site after harvest. Eight leave trees per acre will be scattered throughout the harvest area. See A.7 (a.b.c.d.) and B.4.b.(2), above.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☐other:
mammals: ☒deer, ☐bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes*, ☐*caves*, ☐*cliffs*, ☐*oak woodlands*, ☐*balds*, ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*
This proposal lies within the Pacific flyway but is not used as a resting or feeding area by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species /Habitat: Goshawk — Protection Measures: retention trees left around the old nest site.

Species /Habitat: Marbled Murrelet — Protection Measures: The South Coast marbled murrelet model identified the timber along the western edge, north of the Type 4 stream as Marbled Murrelet habitat. The habitat was excluded from the sale area.

Species /Habitat: — Protection Measures:

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
None

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
Does not apply.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe special emergency services that might be required.
Fire suppression, hazardous waste cleanup.

2) Proposed measures to reduce or control environmental health hazards, if any:
The timber sale contract requires purchaser to minimize risk of fire and does not allow for disposal of any kind of waste on any State lands.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
None

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.
Noise from heavy equipment and log truck traffic during daylight hours while the sale is active.

3) Proposed measures to reduce or control noise impacts, if any:
None

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*
Timber production

b. Has the site been used for agriculture? If so, describe.
No

c. Describe any structures on the site.
None

d. Will any structures be demolished? If so, what?
No

e. What is the current zoning classification of the site?
Grays Harbor Timber production

f. What is the current comprehensive plan designation of the site?

Grays Harbor Timber production

g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
No

i. Approximately how many people would reside or work in the completed project?
None

j. Approximately how many people would the completed project displace?
None

k. Proposed measures to avoid or reduce displacement impacts, if any:
None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
None

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
None

c. Proposed measures to reduce or control housing impacts, if any:
None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?
Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☒*No* ☐*Yes, viewing location:*

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☒*No* ☐*Yes, scenic corridor name:*

3) How will this proposal affect any views described in 1) or 2) above?
Does not apply.

c. Proposed measures to reduce or control aesthetic impacts, if any:
Leave trees are clumped and scattered throughout the sale area and the site will be replanted within the first planting season after harvest with 300 trees per acre of Douglas fir and red cedar. See A.7 (b.c.d.) and B.4.b.(2).

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
None

b. Could light or glare from the finished project be a safety hazard or interfere with views?
No

c. What existing off-site sources of light or glare may affect your proposal?
None

d. Proposed measures to reduce or control light and glare impacts, if any:
None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
Dispersed informal recreation in the form of hunting, berry picking, etc.

b. Would the proposed project displace any existing recreational uses? If so, describe:
Informal recreation will be temporarily displaced during logging operations on the timber harvest area.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
None

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.
A dry flume was found on the site. This flume was left from logging taking place in the area in the 1920's. The site will be place on the TRAX system and preserved as a historical site.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.
See 13a above.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)
Placing retention trees around the area protects the site.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.
The sale is accessed by Donkey Creek Road, from HWY. 101.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?
No

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
No

c. How many parking spaces would the completed project have? How many would the project eliminate?
Does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).
This sale is constructing 7550 feet of new road and 1000 feet of reconstruction.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?
None

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.
Does not apply.

g. Proposed measures to reduce or control transportation impacts, if any:
None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.
None

b. Proposed measures to reduce or control direct impacts on public services, if any.
None

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
Does not apply.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
Does not apply.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: __Drew Rosanbalm_____Forester 2_____Date: __7/15/04_____
Title